

# Cytokeratin 1/10 (LH1): sc-53251

## BACKGROUND

Cytokeratins comprise a diverse group of intermediate filament proteins (IFPs) that are expressed as pairs in both keratinized and non-keratinized epithelial tissue. Cytokeratins play a critical role in differentiation and tissue specialization and maintain the overall structural integrity of epithelial cells. Cytokeratins are useful markers of tissue differentiation which is directly applicable to the characterization of malignant tumors. Cytokeratin polypeptides are designated one to 20 and Cytokeratin 1 has the highest molecular weight, while Cytokeratin 19 has the lowest molecular weight. The Cytokeratins are divided into the type I and type II subgroups. The type II family members comprise the basic to neutral Cytokeratins 1-8, while the type I group comprises the acidic Cytokeratins 9-20.

## CHROMOSOMAL LOCATION

Genetic locus: KRT1 (human) mapping to 12q13.13, KRT10 (human) mapping to 17q21.2; Krt1 (mouse) mapping to 15 F3, Krt10 (mouse) mapping to 11 D.

## SOURCE

Cytokeratin 1/10 (LH1) is a mouse monoclonal antibody raised against full length proteins Cytokeratin 1 and 10 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cytokeratin 1/10 (LH1) is available conjugated to agarose (sc-53251 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53251 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53251 PE), fluorescein (sc-53251 FITC), Alexa Fluor® 546 (sc-53251 AF546), Alexa Fluor® 594 (sc-53251 AF594) or Alexa Fluor® 647 (sc-53251 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53251 AF680) or Alexa Fluor® 790 (sc-53251 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Cytokeratin 1/10 (LH1) is recommended for detection of Cytokeratin 1 and Cytokeratin 10 of mouse, rat, human and porcine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Cytokeratin 1: 67 kDa.

Molecular Weight of Cytokeratin 10: 57 kDa.

Positive Controls: Caco-2 cell lysate: sc-2262.

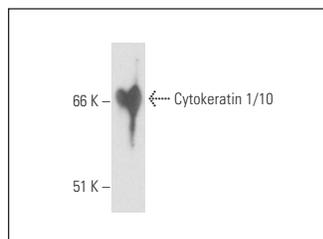
## RESEARCH USE

For research use only, not for use in diagnostic procedures.

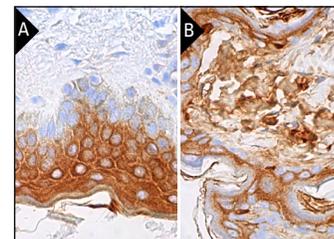
## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



Cytokeratin 1/10 (LH1): sc-53251. Western blot analysis of Cytokeratin 1/10 expression in Caco-2 whole cell lysate.



Cytokeratin 1/10 (LH1): sc-53251. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of keratinocytes and Langerhans cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat skin tissue showing cytoplasmic staining of epidermal cells (B).

## SELECT PRODUCT CITATIONS

- Kano, S., et al. 2008. Tripartite motif protein 32 facilitates cell growth and migration via degradation of Abl-interactor 2. *Cancer Res.* 68: 5572-5580.
- Liu, H.B., et al. 2009. Fibroblasts from the new-born male testicle of Guangxi Bama mini-pig (*Sus scrofa*) can support nuclear transferred embryo development *in vitro*. *Zygote* 17: 147-156.
- Madeo, A. and Maggolini, M. 2010. Nuclear alternate estrogen receptor GPR30 mediates 17β-estradiol-induced gene expression and migration in breast cancer-associated fibroblasts. *Cancer Res.* 70: 6036-6046.
- Swadzba, E. and Rupik, W. 2012. Cross-immunoreactivity between the LH1 antibody and cytokeatin epitopes in the differentiating epidermis of embryos of the grass snake *Natrix natrix L.* during the end stages of embryogenesis. *Protoplasma* 249: 31-42.
- Liu, H., et al. 2014. *In vitro* development of porcine transgenic nuclear-transferred embryos derived from newborn Guangxi Bama mini-pig kidney fibroblasts. *In Vitro Cell. Dev. Biol. Anim.* 50: 811-821.
- Giani, F., et al. 2015. Thyrospheres from normal or malignant thyroid tissue have different biological, functional, and genetic features. *J. Clin. Endocrinol. Metab.* 100: E1168-E1178.
- Zhang, M.F., et al. 2018. Differentiation model establishment and differentiation-related protein screening in primary cultured human sebocytes. *Biomed Res. Int.* 2018: 7174561.
- Tait, A., et al. 2021. GMP compliant isolation of mucosal epithelial cells and fibroblasts from biopsy samples for clinical tissue engineering. *Sci. Rep.* 11: 12392.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.